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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,825	09/22/2003	Hideo Yoshizawa	242956US2	7307
22850	7590	12/17/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHEN, SOPHIA S	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/665,825

Applicant(s)

YOSHIZAWA ET AL.

Examiner

Sophia S. Chen

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) 10-16 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 2 and 7-9 is/are rejected.  
7) ☒ Claim(s) 3-6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/22/03, 2/12/04, 6/9/04, 8/26/04, 10/29/04, 11/23/04  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I in the reply filed on 11/22/04 is acknowledged. The traversal is on the ground(s) that a search and examination of the entire application would not place a serious burden on the Examiner. This is not found persuasive because the search of subclasses of Group I is not identical to the ones for Group II. For example, Group II needs to search the cleanerless system (399/149 and 399/150) and the bias voltage of the cleaning brush (399/354) which are not needed for Group I. Therefore, the Examiner strongly believes it would place a serious burden on the Examiner if the Examiner has to search the entire application.

The requirement is still deemed proper and is therefore made FINAL.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 32 (Figure 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because "t<sub>1</sub>" in Figure 14 should be labeled as "T<sub>1</sub>". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The use of the trademark "Mylar" (see abstract, page 10, etc.) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

#### ***Claim Objections***

7. Claim 9 is objected to because of the following informality: line 24, "last" should be "least". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (US Pat. Pub. No. US 2002/0141771 A1) in view of Scherdel (US Pat. No. 6,697,599 B2) and Tsukahara (JP 28-126566, cited in PTO-1449)

Nishimura discloses in a process cartridge 26 removably mounted to a body 2 of an image forming apparatus 1 (Figures 1 and 2) comprising: an image carrier 27; developing means 31; image transfer means 30 for forming an electrical field between the image carrier 27 and a subject body (a sheet) 3 of image transfer to thereby transfer the toner image from the image carrier 27 to the subject body 3 (paragraph [0040]); and cleaning means (a cleaning roller) 51 using a bladeless system for removing a residual toner left on the image carrier 27 after image transfer without scraping off the residual toner with a blade member (paragraph [0068] and Figure 2).

Nishimura differs from the instant claimed invention in not disclosing a flexible member affixed at one edge portion and having a flat surface formed with a plurality of grooves at the other edge portion, and at least the image carrier and the flexible member are constructed integrally with each other.

Scherdel discloses an image forming apparatus comprising an image carrier 1; developing means 5; transfer means 6; cleaning means (a brush) 11 using a bladeless system (Figure 1); and a flexible member 17 affixed at one edge portion 19 and having a flat surface at the other edge portion (Figure 2).

Tsukahara discloses an image forming apparatus comprising a flexible member 8 or 5 having a plurality of grooves 7 (at the contact surface, Figures 4 and 5), and the plurality of grooves 7 each extending over an image forming range of a surface of the image carrier 1 (Figure 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the flexible member as taught by Scherdel to the cleaning means of Nishimura to further remove loosened toner (Scherdel; column 3, lines 62-66).

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the grooves as taught by Tsukahara to the flat surface (or contact surface) of the flexible member of Nishimura in view of Scherdel to further increase the cleaning effect (Tsukahara; abstract).

Since the process cartridge includes at least the image carrier and the cleaning means, and the flexible member is added to the cleaning means, it would have been obvious that the flexible member is also inside the process cartridge.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Scherdel and Tsukahara as applied to claim 1 above, and further in view of Shakuto et al. (US Pat. No. 6,799,012 B2)

Nishimura in view of Scherdel and Tsukahara, as discussed above, further discloses the flexible member 15 comprising a sheet member formed of a soft plastic (Scherdel; page 3, lines 46-50).

Nishimura in view of Scherdel and Tsukahara differs from the instant claimed invention in not disclosing the flexible member is formed of polyethylene terephthalate.

Shakuto et al. discloses an image forming apparatus comprising a scraping blade (flexible member) 4 is implemented as a PET (polyethylene terephthalate) sheet (column 5, lines 5-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the polyethylene terephthalate as taught by Shakuto et al. in place of the material of the flexible member of Nishimura in view of Scherdel and Tsukahara because of the same functionality for cleaning/removing toner.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Scherdel and Tsukahara as applied to claim 1 above, and further in view of Shakuto et al.

Nishimura in view of Scherdel and Tsukahara, as discussed above, differs from the instant claimed invention in not disclosing the toner has a mean circularity of 0.93 or above.

Shakuto et al. discloses an image forming apparatus comprising the toner to be dealt with by a cleaning device 0 is implemented as spherical and dry grains (column 5, lines 40-41). Inherently, the spherical toner has a circularity of around 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the spherical toner as taught by Shakuto et al. to the apparatus of Nishimura in view of Scherdel and Tsukahara because the spherical toner grains are desirable in durability against temperature, low-temperature fixing ability, and resistance to hot offset (Shakuto et al.; column 6, lines 10-15).



***Allowable Subject Matter***

13. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other Prior Art***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Michlin et al. (US Pat. No. 5,237,375) discloses an image forming apparatus comprising a cleaning blade having a plurality of grooves (each not extending over an image forming range).

Kamijo et al. (US Pat. No. 5,315,357) discloses an image forming apparatus comprising a cleaning blade having a plurality of grooves (each not extending over an image forming range).

Godlove (US Pat. No. 5,394,228) discloses an image forming apparatus comprising a cleaning blade having a plurality of grooves (each not extending over an image forming range).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (703) 308-7617. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (703) 308-1373. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen  
Primary Examiner  
Art Unit 2852

Ssc  
December 13, 2004